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CISCO NETWORKING ACADEMY TRAINING - NETACAD PROGRAM TRAININGS AND QUALIFICATIONS

CISCO HÁLÓZATI AKADÉMIAI KÉPZÉS - NETACAD PROGRAM KÉPZÉSEK ÉS MINŐSÍTÉSEK

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Abstract

In my publication, as a next element of an article series, I would like to draw attention to the different trainings, courses, exams and qualifications at various levels as part of the CISCO Networking Academy Training - NetAcad Program.

Keywords: CISCO Networking Academy, Entry level, Associate level, Professional level, Expert level

Absztrakt

Jelen közleményben egy cikksorozat következő elemeként, kerül bemutatásra a CISCO Hálózati Akadémiai Képzés - NetAcad Program keretében a különböző képzési szinteken elérhető képzések, tanfolyamok, vizsgák és iparági minősítések.

Kulcsszavak: CISCO Hálózati Akadémia, Entry szint, Associate szint, Professional szint, Expert szint

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INTRODUCTION

In earlier publications I already described and introduced the CISCO Networking Academy-NetAcad system in general, the processes leading to its emergence, its antecedents, the academic system structural setup, all those people who actively take part in it and contribute to its unbroken success and last but not least prove its popularity and its reason for existence. [1]; [2]; [3] In the above mentioned articles I also examined how can the CISCO Academy (CA¹), managed by the National University of Public Service, Faculty of Military Science and Officer Training, Institute of Military Maintenance, CIS Department, have an important role in the qualification, teaching and preparation of the infocommunication professional strength of the Hungarian Defense Forces [4]; [5], taking into account the impact of the new age, the information society and the challenge of the fourth generation warfare.

Continuing the topic in my current writing, I would like to give a deeper insight into the available trainings and courses and their industrial qualification exams, which are provided by the CISCO Networking Academy Training - NetAcad Program. After completing them successfully, the future or already practicing expert can access various internationally acknowledged qualifications being recognised by the IT² labour market.

For a simpler understanding, I would like to refer to the CISCO Networking Academy Training - NetAcad Program's available trainings and courses and their industrial qualification exams by presenting two figures.



Figure 1. CISCO Career Certifications Hierarchy [6] [7]

² Information Technology

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¹ CISCO Academy



Figure 2. A CISCO Career Certifications [8] [9]

CISCO NETWORKING ACADEMY TRAINING - NETACAD PROGRAM - "ENTRY" LEVEL

The "Entry" level training is a training for beginners who would like to obtain basic knowledge, start and build up a carrier in the world of networks. Although, it is not a prerequisite nor a requirement, but it can help to proceed towards the trainings of "Associate" level. This level from the networking information technology concerns the following sections in various courses: [8]

- design

- routing & switching
- security
- wireless
- other certifications (certified technician)
- specialist (business, security)
- technology training (data, analytics)

Within this level, we have the opportunity of obtaining two different types of industrial qualifications. One of them being CCENT³ and the other one is the CCT⁴ qualification. The CCENT qualification level provides possibilities for users to master how to implement, efficiently operate, manage and even how to troubleshoot a small office's or a home office's (SOHO⁵) network with all of its devices and service by handling the needed protocols, technologies and technics. Knowing all these, we can mainly start working as a network support technician at an entry level. For obtaining the qualification, it is needed the successful accomplishment of some or of all the following exams: [10][11][12]

- 100 -105 ICND 1 Design
- 100 -105 ICND 1 Routing & Switching
- 100 -105 ICND 1 Security
- 100 -105 ICND 1 Wireless

The CCT qualification first of all prepares the future customer service experts and technicians for mastering the online customer service and for being able to handle the CISCO's networking technical devices. The store of knowledge includes all the skills, which enables future experts to diagnose system tools, to detect, restore, repair or substitute problems in cooperation with CISCO Technical Assistance Center (TAC⁶). [10][13][14] To obtain the qualification it is necessary to pass the following exams:

- 640 692 RSTECH
- 010 151 DCTECH
- 640 792 TPTECH

CISCO NETWORKING ACADEMY TRAINING - NETACAD PROGRAM – "ASSOCIATE" LEVEL

As we can see in figure 2. the "Entry" level is followed by the "Associate" level. Within this level, there are more available courses and trainings, whereas there are also some, which are the same as those of the previous level. At this level, the obtainable knowledge is deeper, which provides the needed expectations for the "Professional" and "Expert2 level. The courses, trainings and the available qualifications of the "Associate" level cover the basics of networking experts' carrier development. As it was mentioned above, the qualifications of the "Entry" level are not prerequisites, however, they supply great basics for deepening ones knowledge at this level.

Thanks to the continuous development, based on the rapidly changing IT world and its high expectations, as well as the new technologies and technics, expert can acquire skills,

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³ CISCO Certified Entry Networking Technician

⁴ CISCO Certified Technician

⁵ Small Office - Home Office

⁶ CISCO Technical Assistance Center

which will be enough to complete all the challenges of the main networks. Within the "Associate" level, the following fields of the IT world can be learnt: [15]

- cloud
- collaboration
- cybersecurity operations
- data center
- design
- industrial, IoT
- routing & switching
- security
- service provider
- wireless
- specialist (data center, operating system software)

Taking into consideration the system of qualifications of this level, two different qualifications are provided for the future experts. One of them is CCNA⁷ and the other one is the CCDA⁸. By acquiring the CCNA qualifications, we can obtain numerous skills concerning cloud computing, various collaboration solutions, cybersecurity, databases, the Internet of Things, routing, switching, network security, several infocommunication service providers. Moreover, experts will be also able to handle questions of wireless technologies by which it is possible to become an engineer expert in the given fields. [15] The instructors of the CISCO Academy at the CIS Department have acquired CCNA Routing & Switching qualification entitlement for the courses of this level. This also gives the basics of the department's BSc level program for the networking information technology education for students of the third and fourth year and for the courses. As it is visible in the listing, at this level it is possible to acquire up - to - date knowledge, which stipulates the basics of infocommunication networks. As it is shown in the listing, this level of the training provides possibility to acquire such knowledge that defines the function of the infocommunication networks that is the base of information society as well as defense sphere.

By acquiring the CCDA qualification, it is possible to become experts, who are able to design networks of companies of different measurements, which are expected to be reliable, available, flexible to accommodation, secure, redundant. The ones who obtain the qualification can become mainly network designers and can operate as engineers as the course concentrates on subdivisions like network design procedures, designing logical addresses of networks and the basic network services' supplement, development, data centres, advanced network security solutions, voice based services and the possibilities of wireless technology. [16]

The needed exams for obtaining CCNA and CCDA qualifications are the following: [10][15][16]

- CCNA
 - o Cloud
 - 210 451 CLDFND
 - 210 455 CLDADM
 - Collaboration
 - 210 060 CICD

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⁷ CISCO Certified Network Associate

⁸ CISCO Certified Design and Architecture

- 210 065 CIVND
- Cybersecurity Operations
 - 210 250 SECFND
 - 210 255 SECOPS
- Data Center
 - 200 150 DCICN
 - 200 155 DCICT
 - 640 916 DCICT
 - 640 916 DCICT
- Routing & Switching
 - 100 105 ICND 1
 - 200 105 ICND 2
 - 200 125 CCNA
- Security
 - 210 260 IINS
- Service Provider
 - 640 875 SPNGN1
 - 640 878 SPNGN2
- Wireless
 - 200 355 WIFUND
- **CCDA**
 - o 210 310 Design

CISCO NETWORKING ACADEMY TRAINING-NETACAD PROGRAM -"PROFESSIONAL" LEVEL

The next training level is the "Professional" level, which intends to qualify networking specialists, who are at advanced or professional level with more experience and who can obtain CCNP⁹ and CCDP¹⁰ certificates and qualifications at this level. The following modern infocommunication subdivisions are being taught at this level [17]:

- cloud
- collaboration
- data center
- design
- routing & switching
- security
- service provider
- wireless
- specialist (Internet of Things, Service Provider)

By obtaining all these skills, the professionals gain a deeper knowledge than at the "Associate" level. Networking engineers at the "Professional" level, after acquiring the CCNP certificate and qualification, acquire proficiency in cloud computing, different collaboration solutions, data center, routing and switching, network security, providing various infocommunication service, wireless technologies and in Internet of Things. [17]

¹⁰ CISCO Certified Design Professional

⁹ CISCO Certified Network Professional

By the CCDP certificate and qualification prepares suitable networking specialists for the labour market, who are able to design developed networks, IP¹¹ addresses, who know how to manage advanced routing and switching, who can work with expanded network solutions, service virtualization and multi - layered network architecture. [18]

The professionals will be able to fulfil scope of activities such as administration, engineering and network designing. This training level practically provides the entrance to the "Expert" level at which specialists with the highest qualification and with the most experience can expand their knowledge in human resources of networking information technology. [17]

The needed exams for the CCNP and CCDP certificates and qualification are displayed below. As in this case we are discussing specialists with sufficient previous experience, therefore, for obtaining these qualifications and certificates at this level it is essential to already have obtained the qualifying exams of the same field from the "Associate" or "Expert" level. [10][17][18]

- CCNP
- o Cloud
 - 300 460 CLDINF
 - 300 465 CLDDES
- o Collaboration:
 - 300 070 CIPTV1
 - 300 075 CIPTV2
 - 300 080 CTCOLLAB
 - 300 085 CAPPS
- Data Center
 - 300 175 DCUCI
 - 300 165 DCII
 - 300 -170 DCVAI
 - 300 160 DCID
 - 300 180 DCIT
 - 642 999 DCUCI
 - 642 997 DCUFI
 - 642 998 DCUCD
 - 642 996 DCUFD
 - 642 035 DCUCT
 - 642 980 DCUFT
- Routing & Switching
 - 300 101 ROUTE
 - 300 115 SWITCH
 - 300 135 TSHOOT
- Security
 - 300 206 SENSS
 - 300 210 SITCS
 - 300 207 SITCS
 - 300 208 SISAS
 - 300 209 SIMOS

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¹¹ Internet Protocol

- o Service Provider
 - 642 883 SPROUTE
 - 642 885 SPADVROUTE
 - 642 887 SPCORE
 - 642 889 SPEDGE
- Wireless
 - **300 360 WIDESIGN**
 - 300 365 WIDEPLOY
 - 300 370 WITSHOOT
 - **300 375 WISECURE**
- CCDP
- o 300 320 ARCH
- o 300 101 ROUTE
- o 300 115 SWITCH

CISCO NETWORKING ACADEMY TRAINING-NETACAD PROGRAM EXPERT LEVEL

The highest level of the CISCO Networking Academy Training – NetAcad Program is the "Expert" level. Specialists qualified at this level possess the most complex knowledge from the field of networking information technology. The qualifications of the highest level include the CCAr¹², CCIE¹³ and CCDE¹⁴ qualifications, which are acknowledged worldwide as the most prestigious ones. The provide deep and modern knowledge, what enables experts to design, implement, operate and to troubleshoot even the most complex network infrastructure and to manage the most diverse network services. Their expertise is in the segments of: [19]

- architect
- collaboration
- data center
- design
- routing & switching
- security
- service provider
- wireless
- specialist

The system of available certificates and qualifications shows a three - way dispersion at the peak of the qualification pyramid of which CCIE is one of the qualifications. By obtaining this, it is verified that its holder is able to implement, integrate, configure, co - operate, troubleshoot in collaboration solutions, which occur in the modern networks of today. They are also able to contend with data centers, various routing and switching protocols, network security, as well as the most modern wireless technologies, moreover they have wide knowledge about infocommunication and telecommunication service providers. [19]

The holders of CCDE certificate and qualification have the highest level of knowledge; they are the most experienced engineers, who possess all the professional knowledge, what

¹² CISCO Certified Architect

¹³ CISCO Certified Internetwork Expert

¹⁴ CISCO Certified Design Expert

helps them to efficiently design networks of global corporations according to their growing needs, expectations and requirements. This all is accomplished by following the newest technological and technical possibilities for the criteria of the business strategies of enterprises. [20]

The CCAr qualification is at the top of the hierarchy of the certificates and qualifications. These experts are not only in hold of all the needed knowledge, but they are also able to communicate, represent their conceptions and make propositions in order to create a suitable network infrastructure to comply the requirements of the business strategy. [10][19][20] [21] [22]

- CCIE
- Collaboration
 - Written exam
 - Lab exam
- Data Center
 - Written exam
 - Lab exam
- o Routing & Switching
 - Written exam
 - Lab exam
- Security
 - Written exam
 - Lab exam
- o Service Provider
 - Written exam
 - Lab exam
- Wireless
 - Written exam
 - Lab exam
- CCDE
- o Written exam
- o Practical exam
- CCAr
- Architect
 - Board Exam

CISCO NETWORKING ACADEMY TRAINING - NETACAD PROGRAM - SPECIALIST AND TECHNOLOGY TRAINING COURSES

As we could see on the number 2. "CISCO Career Certifications" figure, each level of the training has its own specialized subsequent course, and naturally, all of them end up with a qualifying exam in order to acquire the associated qualifications and certifications. These trainings can be carried out within Specialist and Technology Training courses; however, the latter one is only available in the "Entry" level of the course. Basic purpose of this is to provide additional knowledge beyond the already learned ones, improve the necessary skills, enhance the professional competence and on the other hand, to provide further knowledge of closely associated subfields. After completion of training the specialist, will have deep knowledge in today's modern infocommunication solutions, technology, and technics as well as in the infocommunication trends that are shaping the future.

As mentioned before in the presentation of different levels of trainings, within the Specialist course the below subfields can be obtained:

- Entry level
 - o business
 - o security
- Associate level
 - o data center
 - o operating system software
- Professional level
 - o Internet of Things
 - Service Provider
- Expert level
 - o network programmability
 - o collaboration

The *Technology Training* course includes only one subfield, which is the data and analytics.

The below listing presents the necessary exams of these separate courses, that are needed to be completed in order to get the belonging certifications and qualifications: [10]

- Entry level
 - Business
 - 820 427 BTBBSS
 - 810 420 BTUBVAF
 - 810 403 OUTCOMES
 - 820 424 BTASBVA
 - 840 425BTEABVD
 - 820 432 BTROAD
 - Security
 - 600 199 SCYBER
- Associate
 - Data Center
 - 642 996 DCUFD Exam
 - 642 997 DCUIF Exam
 - 642 980 DCUFT Exam
 - Operating System Software
 - 644 906 IMTXR
- Professional level
 - Internet of Things
 - 200 401 IMINS Exam
 - Service Provider
 - 600 211 SPCDMA
 - 600 212 SPLTE
 - 600 210 SPUMTS
- Expert level
 - Network Programmability
 - 600 -501 NPIBA
 - 600 502 NPDEV
 - 600 503 NPDES
 - 600 511 NPDESACI
 - 600 504 NPENG
 - 600 512 NPENGACI

- Collaboration
 - 200 001 VIVND
 - 201 065 CIVND
 - 700 070 IX5K
 - 600 455 UCCED
 - 600 460 UCCEIS

CONCLUSIONS

Based on all the above, we can see that the CISCO Networking Academy Training - NetAcad Program provides a comprehensive, complex knowledge base, education and training opportunity that is delivered through different level of trainings and courses and actually covers all aspects of the networking IT. As a result, the specialist, who would like to start building career in the IT area, will have the possibility to gain radical professional knowledge and skills. On the one hand, it helps them to keep up with the trends, technology, technics, achievement and services of the infocommunication technologies of the 21st century, and on the other hand, they will acquire certifications and qualifications that widely accepted and represent high value in the IT labour market. Take into consideration the previous ones, the experts who take part in the NetAcad Program will be considered as competitive and much called players in the IT market.

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